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Maternal Confidence in Child Rearing: Comparing Data from Short-term Prospective Surveys Among Japanese and Vietnamese Mothers

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Abstract *Objective*: To investigate the confidence women feel about child rearing in Japan and Vietnam. *Methods*: We conducted a prospective study of 210 Japanese mothers who registered as pregnant in Sukagawa City, Fukushima, and 132 Vietnamese mothers who attended a university hospital in Ho Chi Minh City. Follow-up surveys were conducted via mail approximately 6 weeks after newborn delivery among the Japanese cohort, and at the time of a one-month checkup at the hospital among the Vietnamese cohort. *Results*: The follow-up rate among these subjects was 67% ($N = 140$) in Japan and 65% ($N = 86$) in Vietnam. The proportion of mothers who were not confident about child rearing was 48% ($N = 67$) in Japan and 63% ($N = 54$) in Vietnam. In both countries, mothers in the unconfident group reported less happiness and relaxation time with children than mothers in the confident group. Maternal confidence was associated with child rearing experience, although the significance of this factor diminished in a multivariate analysis of the Vietnamese data. While unintended pregnancy and unemployment were related to confidence in child rearing in Japan, educational history was associated with confidence in Vietnam. *Conclusion*: This exploratory study found a high proportion of Japanese and Vietnamese mothers are not confident in child rearing, which calls attention to this understudied issue of confidence among Asian mothers.

Keywords Child rearing · Japan · Vietnam · Maternal confidence

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Introduction

In traditional Asian cultures, women are expected to play the major role in child rearing. However, a cross-national study reported that Japanese mothers rated themselves less competent and satisfied in their parenting, although they were high in investment when compared to women in six European, South and North American countries [1]. Likewise, an international comparison survey conducted by the Japanese government reported that the proportion of mothers who considered raising children enjoyable was 44% among Japanese mothers, while the number was 81% in the United States [2]. The proportion of Japanese mothers who report feeling stress during child rearing has increased in the last two decades, from 11% in 1980 to 33% in 2002 among mothers of 18-month babies [3]. Concurrently, the number of reported child abuse cases showed a 31-fold increase from 1,101 cases in 1990 to 34,472 cases in 2005, due in part to improved reporting. In response to recent social attention on maternal

psychological health and child-parent relationships, the Japanese government's plan for the "21st Century Healthy and Happy Family" included a reduction in child rearing anxiety as one of its four main goals, for which "the proportion of mothers who are confident in child rearing" was listed as one of evaluation indicators [4].

A recent study among over 900 Japanese mothers of 4-month babies conducted a structural analysis of child rearing anxiety and found that maternal confidence was its strong determinant [5]. Another study among about 400 Japanese mothers of 2-year-olds reported that maternal confidence was one of the factors associated with parenting stress [6]. The maternal confidence is defined as the perception mothers have of their ability to care for and understand their children; it is necessary for healthy parenthood and positive mother-infant relationships [7]. There have been few epidemiological investigations, however, focusing on the subject of maternal confidence in Asian countries. Here, we investigate mothers' confidence in child rearing through prospective surveys of Japanese and Vietnamese mothers.

Methods

Our survey in Japan targeted all 222 women who registered as pregnant in Sukagawa City, Fukushima, from November 2003 to March 2004. Pregnant women in Japan are required to report their pregnancies to a city office, which we used as an opportunity to collect baseline subject information. Follow-up survey questionnaires were mailed approximately six weeks after the women's expected delivery date. The survey in Vietnam was hospital-based, targeting 155 women at their first antenatal checkup. These women were clients of three doctors at an affiliated hospital of the University of Medicine and Pharmacy, Ho Chi Minh City, during the period from September 2004 to March 2005. To ensure follow-up, we selected women who planned to give birth at the survey site. The follow-up survey was conducted at the time of a mother's one-month checkup. All Vietnamese doctors in the survey team had participated in research training conducted jointly by their university and the Department of Public Health of Fukushima Medical University [8].

Maternal confidence was assessed using one of the questions in the National Child Health Survey: "Are there any moments when you don't feel confident about child rearing?" The child rearing questions in the national survey assessed the mother's subjective feelings towards child rearing and her evaluation of her husband's participation in child rearing [9]. These two factors have been adopted as indicators for the Japanese government's plan for the "21st Century Healthy and Happy Family" [4]. Those subjects who answered yes or were unsure of their response were classified as part of an unconfident group. Additionally, the mother's happiness was assessed using a 10-point scale ranging from very unhappy (one point) to very happy (ten points), and the mother's attachment to her baby was assessed using the Maternal Attachment Inventory—Japanese Version (MAI) [10]. This eight-item inventory measures a woman's response to statements about her feelings toward her baby using a four-point Likert scale from ''not at all'' (one point) to ''very much'' (four points). The total score ranged from 8 to 32, where a higher score indicated greater attachment. The questionnaire was in Japanese, and translated into English and then into Vietnamese. The English translation was necessary to enhance understanding between Japanese and Vietnamese researchers. When translating from one language to another, back-translation was performed to confirm accuracy.

Survey data were analyzed using STATA statistical software, version 8 for Windows (Stata Corporation, College Station, TX). To compare two countries and confident and unconfident mothers, Chi-square test or Fisher's exact test was used for categorical items and Wilcoxon ranksum test was used for continuous items. For the analysis of factors associated with maternal confidence, logistic regression was performed against the mother's age; employment and marital status at the time of baseline survey; father's age and employment; living status in relation to grandparents or husband; previous maternal history; past medical history; pregnancy intention; and concerns regarding pregnancy, child birth or child rearing at the time of the baseline survey. Furthermore, the mother's education and financial status were included for the analysis of Vietnamese data.

The study was approved by the Ethics Committee of the Fukushima Medical University and the Dean of the University of Medicine and Pharmacy, Ho Chi Minh City. The study was explained to all the women, and oral consent was obtained from all participants.

Results

Baseline data was obtained from 210 Japanese women (response rate = 95%) and 132 Vietnamese women (response rate = 85%). Twelve Japanese women and 11 Vietnamese women refused to participate, and an additional 12 Vietnamese women were excluded because they planned to deliver at hospitals other than the survey site. Among the baseline survey respondents, 140 Japanese mothers (follow up rate = 67%) and 86 Vietnamese mothers (follow up rate = 65%) were followed after birth. Characteristics of Japanese and Vietnamese mothers

enrolled in the baseline survey were as follows (Table 1): mother's age (median 28 years old for both groups), proportion of working mothers (42% for Japanese, 80% for Vietnamese), single at the time of the baseline survey (15%, 1%), age at marriage (median 24 years old, 26 years old), first time mother (37%, 58%), prior abortion (10%, 20%), past medical condition (2% vs. 11%), gestational week at the time of the baseline survey (median 11 weeks, 9.5 weeks), and unintended pregnancy (20%, 10%). Additionally, 60% of the Vietnamese mothers had an education level higher than high school, while 12% were financially dependent on parents. These items were not assessed among the Japanese mothers.

The number of mothers who were not confident was 67 (48%) among the Japanese sample and 54 (63%) among the Vietnamese sample (Table 2). In both countries, the unconfident group reported greater unhappiness and inability to have time to interact with their children in a relaxed mood. Among the Japanese mothers, MAI was significantly lower and the proportion of those reporting limited participation of fathers in child rearing was higher in the unconfident group.

Table 3 shows mothers' characteristics and their associations with maternal confidence in child rearing. A univariate analysis of the Japanese data showed that mothers who were unemployed and older at the time of

Table 1 Characteristics of Japanese and Vietnamese women enrolled in the baseline survey

	N (%)[a] or *Median (Min, Max)*		
	Japan *N* = 210	Vietnam *N* = 132	*P* value[b]
Socio-demographic characteristics			
Age	*28 (17,43)*	*28 (19,40)*	0.78
Employment			
Employed	88 (42)	105 (80)	0.00
Not employed	122 (58)	27 (20)	
Marital status			
Single	32 (15)	1 (1)	0.00
Married or remarried	175 (85)	131 (99)	
Age of marriage	*24 (17,42)*	*26 (19,38)*	0.01
Education			
High school or lower	–	52 (39)	
Vocational school, university or higher	–	80 (61)	
Financial dependency on parents			
Independent	–	115 (88)	
Partially dependent	–	16 (12)	
Pregnancy and medical history			
Previous birth			
0	78 (37)	77 (58)	0.00
1 or more	132 (63)	55 (42)	
Previous abortion			
0	190 (90)	105 (80)	0.00
1 or more	20 (10)	27 (20)	
Past medical history			
Yes	5 (2)	14 (11)	0.00
No	205 (98)	118 (89)	
Present pregnancy			
Gestational week	*11 (4,35)*	*9.5 (5,21)*	0.00
Pregnancy intention			
Intended	164 (80)	119 (90)	0.01
Unintended	42 (20)	13 (10)	

[a] Respondents of a baseline survey were included in the analysis. Totals across columns for some items do not add up to the total number indicated in the top row because of missing data

[b] Chi-square test was used for categorical items and Wilcoxon ranksum test for age and gestational week

Table 2 Association between Japanese and Vietnamese mothers' confidence and other child rearing items

	Median (min, max) or *N* (%)[a]					
	Japan			Vietnam		
	Confident *N* = 73	Unconfident *N* = 67	*P* value[b]	Confident *N* = 32	Unconfident *N* = 54	*P* value[b]
Current feeling of happiness (1–10)[c]	*10 (8, 10)*	*10 (3, 10)*	0.04	*10 (5, 10)*	*10 (2, 10)*	0.003
Maternal Attachment Inventory (8–32)[d]	*32 (11, 32)*	*30 (16, 32)*	0.01	*32 (31, 32)*	*32 (26, 32)*	0.11
Feel I am abusing my child						
Yes or not sure	1 (1)	4 (6)	0.19	0 (0)	2 (4)	0.52
No	72 (99)	63 (94)		32 (100)	52 (96)	
Have time to interact with child in relaxed mood						
Yes	62 (85)	47 (70)	0.04	32 (100)	47 (87)	0.04
No or not sure	11 (15)	20 (30)		0 (0)	7 (13)	
Think the child's father is cooperative in child rearing						
Very much or fairly	67 (92)	52 (78)	0.02	32 (100)	49 (91)	0.15
Not very much or not at all	6 (8)	15 (22)		0 (0)	5 (9)	
Discuss about child rearing with family members or friends						
Yes	30 (41)	33 (49)	0.33	23 (72)	39 (72)	0.97
No	43 (59)	34 (51)		9 (28)	15 (28)	

[a] Respondents of a follow-up survey were included in the analysis. Totals across columns for some items do not add up to the total number indicated in the top row because of missing data

[b] Chi-square test or Fisher's exact test was used for categorical items and Wilcoxon ranksum test for continuous items

[c] The score ranges from 1 (very unhappy) to 10 (very happy)

[d] The score ranges from 8 to 32 and a higher score indicates a stronger association between a mother and her child

marriage, or who were first-time mothers or having an unintended pregnancy, were more likely not to be confident about their child rearing abilities. Mothers with higher education or having children for the first time were more likely not to be confident in the Vietnamese sample. When these items were entered into a multivariate analysis, unemployment, first-time motherhood and unintended pregnancy remained significant for the Japanese set, while higher education remained significant for the Vietnamese group.

Discussion

This is the first study reporting that a high prevalence of Asian mothers do not feel confident in child rearing. According to the mid-term evaluation of the Japanese government's maternal and child health plan, the prevalence does not seem to decrease during the first three years of parenting; 62% at 12 months, 64% at 18 months and 66% at 24 and 36 months [11]. Mothers' lack of confidence in the early postnatal period may negatively influence their ability to adequately care for their infants [7, 12]. We found unconfident Japanese and Vietnamese mothers were less happy and had little relaxed time with their babies in comparison to confident mothers. Unconfident Japanese mothers were less attached to their babies and felt their husbands' help was limited. It has been noted elsewhere that maternal confidence is closely related with self-efficacy, which is a protective mediator of postpartum depression [13]. A recent study in Vietnam revealed a high prevalence of postpartum depression measured by the Edinburgh Postnatal Depression Scale around 1-month postpartum (33% in Vietnam with a cut-off point of 13 or higher [14] versus 18% in Japan with a cut-off point of 9 or higher [15]), arguing for closer consideration of Vietnamese mothers' mental health. Further research is on-going not only incorporating more precise measures of mothers' psychological status, but also following them for longer periods of time.

The common factor associated with maternal confidence in both countries was first-time motherhood, although the significance of this factor diminished in the multivariate analysis of the Vietnamese dataset. In our survey, the proportion of mothers who were not confident in child rearing was 59% among the Japanese first-time mothers and 70% among the Vietnamese first-time mothers. A previous study in Japan reported a similar proportion of unconfident first-time mothers; 66% were not confident during the first-month postpartum, whereas the percentage was 31% for mothers with 2 or more children [16]. Prior childcare experience is associated with maternal confidence and anxiety levels [16–18]; individual nursing

Table 3 Japanese and Vietnamese mothers' characteristics and their confidence in child rearing practices

Japan	*N* (%)[a]		Crude OR (95%CI)[b]	Adjusted OR (95%CI)[c]
	Confident *N* = 73	Unconfident *N* = 67		
Employment				
Working	34 (47)	18 (27)	1.0	1.0
Not working	39 (53)	49 (73)	2.4 (1.2–4.8)*	2.8 (1.2–6.9)*
Age of marriage (years)				
Less than 24	35 (60)	23 (38)	1.0	1.0
25–29	19 (33)	26 (43)	2.1 (0.9–4.6)#	1.7 (0.7–4.0)
30 or older	4 (7)	12 (20)	4.6 (1.3–15.9)*	2.7 (0.6–11.1)
Previous birth				
1 or more	51 (70)	35 (52)	1.0	1.0
0 (first-time mother)	22 (30)	32 (48)	2.1 (1.1–4.2)*	4.8 (1.9–12.3)**
Pregnancy intention				
Intended	65 (89)	49 (75)	1.0	1.0
Unintended	8 (11)	16 (25)	2.7 (1.1–6.7)*	4.7 (1.2–18.0)*
Vietnam	*N* (%)		Crude OR (95%CI)[b]	Adjusted OR (95%CI)[c]
	Confident *N* = 32	Unconfident *N* = 54		
Mother's education				
High school or lower	19 (59)	17 (31)	1.00	1.00
Vocational school, university or higher	13 (41)	37 (69)	1.5 (1.1–2.0)*	1.4 (1.0–1.9)*
Previous birth				
1 or more	16 (50)	16 (30)	1.00	1.00
0 (first-time mother)	16 (50)	38 (70)	0.4 (0.2–1.0)#	2.0 (0.8–5.0)

[a] Respondents of a follow-up survey were included in the analysis. Totals across columns for some items do not add up to the total number indicated in the top row because of missing data

[b] Univariate logistic regression analysis was used. OR = odds ratio, CI = confidence interval. #$P < 0.1$, *$P < 0.05$, **$P < 0.01$

[c] Significant items in the univariate analyses were entered into a multivariate analysis

instructions could increase maternal confidence among first-time mothers [7].

Unintended pregnancy has also been found to influence mothers' confidence in our previously reported Japanese study [19]. On the other had, no association between unintended pregnancy and maternal confidence among Vietnamese women could be explained by their higher abortion rate than among Japanese mothers, implying that unintended pregnancies carried out to term in Vietnam are presumably less unwelcome than in Japan. The abortion rate in Vietnam was 27 per 1,000 women among 15–44 year old women in 2003 [20], whereas the rate in Japan in the same year was 13 [21], according to the government statistics. The proportion of unintended pregnancies (abortions plus unintended births) that are terminated is estimated to be 77% in Vietnam and 57% in Japan, based on government and World Health Organization statistics and the proportion of unintended pregnancy in our data [20–22].

In Japan, child rearing stress has been reported to be higher among stay-at-home mothers than among mothers employed part-time or full-time [23]. In our survey, the proportion of women who were unemployed was higher among unconfident mothers than among confident mothers. Work outside of the family may increase mothers' self-esteem and satisfaction with life [23]. To the contrary, unemployed mothers with limited social networks are more likely to suffer alone from a burden of child rearing, which is called "child rearing behind closed doors (Ikuji no Missitsuka)". The proportion of working mothers was higher in Vietnam than in Japan, with over 90% of married women aged 25–49 years being employed [24]. The issue of "child rearing behind closed doors" was therefore unique to Japanese mothers.

Another factor significantly associated with maternal confidence among Vietnamese mothers was higher education. Women's educational attainment is increasing among younger women in Vietnam [24]. Although we should be cautious when interpreting the results of our study due to limitations in sampling in Vietnam as discussed below, it may be possible that women with higher education may feel more open to express their difficulties in child rearing,

or that there are some background factors that are increasing their burden of child rearing in Vietnam. It may also be possible that ante- and postnatal care services are not fully responsive to the needs of highly-educated women. One prior survey in seven provinces in Vietnam revealed complaints that insufficient communication existed between providers and clients; only 5% of antenatal clinic patients were asked if they "had more questions" after a doctor-patient encounter [25].

Our survey provides a general investigation into the issue of maternal confidence in child rearing, but has three methodological limitations. First, the sample size was small, and over 30% of enrolled subjects were lost to follow-up in both countries. Mailed questionnaires at the Japanese site had a lower response rate than did telephone and in-person interviews [26]. Among 46 Vietnamese women lost to follow-up, 22 delivered at other hospitals, four had miscarriages, two underwent abortions, and others were not contactable. Analyses of differences in characteristics between respondents and non-respondents of the follow-up surveys showed that Japanese non-respondents were more likely to be younger, married at younger age, employed, smokers and everyday drinkers [19], while Vietnamese non-respondents attended the first antenatal checkup earlier in gestation compared to respondents. As expected, the differences between the two groups were more distinct for Japanese mailed survey, which was conducted for research purpose, than Vietnamese survey conducted at commonly attended one-month checkup. Despite the small sample size and the potential selection bias which may have left relatively healthier women in the follow-up survey, we observed distinct characteristics of mothers not confident in child rearing.

Second, readers should note that our subjects were not representative of mothers in both countries. Japanese mothers were sampled from only one city, and Vietnamese women from a university hospital preferred by clients with higher socioeconomic status than the national average. The proportion of women who completed high school among this group was extremely high (while the national rate of high school completion among women in their 20's and 30's is 20–30%) [24]. Pregnant women with medical complications are referred to the tertiary hospital, and the proportion of those who had past medical conditions was higher compared with Japanese mothers. Our results may not, therefore, generalize to the country's population of mothers, and further research is needed to investigate a broader population of mothers.

Third, there are several shortcomings in the assessment tools. The first to note is that maternal confidence was measured by a single question, and additional research is on-going to deepen our understanding of maternal confidence in both countries. Although carefully translated, the Vietnamese version of MAI has not been validated. Questions regarding one's socio-economic status, considered to be highly sensitive, were not included in Sukagawa city's health counseling sheets for pregnant women. However, recognizing financial status as an important component of child rearing environment, the city included a question on financial strain in the new counseling sheets used from April 2007.

In conclusion, this study found a high proportion of mothers who are not confident in child rearing in both Japan and Vietnam. Lack of confidence was associated with various aspects of child rearing and the mothers' characteristics. The findings imply the importance of assessing mother's child rearing experience, employment status, pregnancy intention and educational attainment, which are likely to influence maternal confidence. Moreover, once a mother admits she is not confident in child rearing, careful attention should be paid to her relationships with her child and her partner. Although further research is needed, our study presents new information on this understudied issue of confidence among mothers raising children in Asia.

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